**Amendments to the Claims**

This listing of claims will replace all prior versions and listings of claims in the application:

**Listing of Claims:**

1. (currently amended) A method for processing a solute comprising the steps of:

(a) dissolving said solute, or a portion of said solute, in a liquid solvent that has an affinity for the solubilization of said solute, thereby forming a solvent/solute liquid phase;

(b) dissolving a gaseous fluid in the solvent/solute liquid phase to form a solvent/solute/gaseous fluid liquid phase;

(c) causing the solvent/solute/gaseous fluid liquid phase to expand through a retention medium comprising a filter that can retain unsolubilized solute particles;

(d) causing the gaseous fluid to be dissolved to a concentration such that the solvent/solute/gaseous fluid liquid phase expands until it loses its affinity for the solubilization of said solute and said solute precipitates;

(e) retaining precipitated solute on a retention medium comprising a filter, which retention medium is the same as the retention medium used in step (c) or is a different retention medium;

(f) reducing the pressure in the liquid phase to a point where a substantial amount of the gaseous fluid is expelled so as to provide a resultant liquid phase having an affinity for the solubilization of said solute; and

(g) optionally adding more solute to the liquid phase produced in step (f); and

further comprising repeating steps (a) through (f) one or more times, or repeating steps (a) through (g) one or more times; and wherein the gaseous fluid is selected from carbon dioxide, nitrous oxide, trifluoromethane, ethane, ethylene, propane, sulfur hexafluoride, propylene, butane, isobutane, pentane, and mixtures thereof.

2. (original) The method of claim 1 wherein the gaseous fluid is carbon dioxide.

3. (original) The method of claim 1 wherein the solute comprises a pharmaceutical drug substance, an impurity or an intermediate product in the synthesis of a pharmaceutical drug substance.

4. (cancelled)

5. (original) The method of claim 1 further comprising repeating steps (a) through (f) at least three times, or repeating steps (a) through (g) at least three times.

6. (currently amended) A process for recrystallizing from a solution material dissolved in said solution, said solution being housed in a enclosure having a top portion and a bottom portion and a longitudinal portion connecting said top portion and said bottom portion, comprising the steps of:

(a) imbuing in said solution a gaseous fluid that is substantially non-reactive with said dissolved material and other components of said solution, to expand the volume of said solution to a level along the longitudinal portion of said enclosure where crystallization of said dissolved material occurs, said point being below said top portion of said enclosure and

above said bottom portion of said enclosure;

(b) reducing the pressure in the gaseous fluid-imbued solution of step (a) to a point such that gaseous fluid is expelled from said gaseous fluid-imbued solution and the volume of the gaseous fluid-imbued solution is contracted to a level along the longitudinal portion of said enclosure below the point where crystallization of the dissolved material occurred in step (a);

(c) if any excess material is present at the bottom portion of the enclosure or is present in suspension in the enclosure, allowing said excess material, or a fraction thereof, to be dissolved in the contracted solution;

(d) optionally adding more material to the contracted solution; and

(e) repeating steps (a) through (c), or steps (a) through (d), until a substantial portion of the material is recrystallized;

and wherein the gaseous fluid is selected from carbon dioxide, nitrous oxide, trifluoromethane, ethane, ethylene, propane, sulfur hexafluoride, propylene, butane, isobutane, pentane, and mixtures thereof..

7. (original) The method of claim 6 wherein the gaseous fluid is carbon dioxide.

8. (original) The method of claim 6 wherein said material comprises a pharmaceutical drug substance, an impurity or an intermediate product in the synthesis of a pharmaceutical drug substance.

9. (currently amended) A method for extracting material from a composition comprising the steps of:

(a) contacting at least a portion of said material with a liquid solvent that has an affinity for the solubilization of said material thereby forming a solvent/material liquid phase;

(b) dissolving a gaseous fluid in the solvent/material liquid phase to form a solvent/material/gaseous fluid liquid phase wherein the gaseous fluid is dissolved to a concentration such that the solvent/material/gaseous fluid liquid phase loses its affinity for the solubilization of said material and said material precipitates;

(c) reducing the pressure in the solvent/material/gaseous fluid liquid phase to a point where a substantial amount of the gaseous fluid in the liquid phase is expelled so as to provide a resultant liquid phase having an affinity for the solubilization of said material; and

(d) repeating steps (a) through (c) until the composition is substantially free of said material; and

wherein the gaseous fluid is selected from carbon dioxide, nitrous oxide, trifluoromethane, ethane, ethylene, propane, sulfur hexafluoride, propylene, butane, isobutane, pentane, and mixtures thereof..

10. (original) The method of claim 9 wherein the gaseous fluid is carbon dioxide.

11. (original) The method of claim 9 wherein the material comprises a pharmaceutical drug substance, an impurity or an intermediate product in the synthesis of a pharmaceutical drug substance

Claims 12-21 (cancelled).

22. (currently amended) A method for conducting chemical reactions to produce reaction product comprising the steps of:

(a) dissolving one or more reactants in a liquid solvent thereby forming a solvent/reactant liquid phase;

(b) dissolving a gaseous fluid in the solvent/reactant liquid phase to form a solvent/reactant/gaseous fluid liquid phase, wherein the gaseous fluid has a low affinity for said reaction product;

(c) continuing to dissolve said gaseous fluid in said solvent/reactant/ gaseous fluid liquid phase to a concentration such that the solvent/reactant/gaseous fluid liquid phase loses its solubilization affinity for said reaction product but not its solubilization affinity for said reactants, and said reaction product precipitates;

(d) retaining precipitated reaction product on a retention medium; and

(e) reducing the pressure in the solvent/reactant/gaseous fluid liquid phase to a point where a substantial amount of the gaseous fluid in the liquid phase is expelled so as to provide a resultant liquid phase having an affinity for both the solubilization of said reactants and said reaction product;

and further comprising the step of repeating steps (a) through (e) one or more times; and wherein the gaseous fluid is selected from carbon dioxide, nitrous oxide, trifluoromethane, ethane, ethylene, propane, sulfur hexafluoride, propylene, butane, isobutane, pentane, and mixtures thereof.

23. (original) The method of claim 22 wherein the gaseous fluid is carbon dioxide.

24. (original) The method of claim 22 wherein the reactants or reaction product comprise a pharmaceutical drug substance, an impurity or an intermediate product in the synthesis of a pharmaceutical drug substance.

25. (cancelled).

26. (original) The method of claim 22 further comprising the step of repeating steps (a) through (e) at least three times.